

**IN THE CLAIMS:**

- 1 1. (Currently Amended) A method for transmitting data in the form of packets, the
- 2 method comprising:
  - 3 generating packets that include a header, a data field, and at least one pseudo-
  - 4 header;
  - 5 formatting the packet header in accordance with the specifications of a first proto-
  - 6 col;
  - 7 formatting a pseudo-header in accordance with one or more additional constraints,
  - 8 such that the additional constraints substantially satisfy at least one additional procedure
  - 9 in accordance with a different protocol;
  - 10 transmitting a data packet including a segment of data, a header and a pseudo-
  - 11 header to a receiving device;
  - 12 receiving at least one reply packet from the receiving device, formatted in accord-
  - 13 ance with the first protocol; and
  - 14 determining the validity of the received packet based on at least one additional
  - 15 processing step, including performing at least one computation using the pseudo-header
  - 16 field contained within the protocol data field after reception of the packet in accordance
  - 17 with the first protocol.

- 1 2. (Previously Presented) The method of claim 1, wherein the data packet transmit-
- 2 ted is formatted in accordance with the specifications of User Datagram Protocol (UDP).

- 3 3. (Previously Presented) The method of claim 1, wherein the data packet transmit-
- 4 ted has a pseudo-header within the data field.

- 1 4. (Previously Presented) The method of claim 3, wherein the fields of the pseudo-
- 2 header are generated according to additional constraints.

- 1 5. (Previously Presented) The method of claim 1, wherein the transmitting includes:  
2 transmitting the data packet using Transmission Control Protocol (TCP).
  
- 1 6. (Previously Presented) The method of claim 1, wherein the transmitting includes:  
2 transmitting the data packet using User Datagram Protocol (UDP).
  
- 1 7. (Previously Presented) The method of claim 4, including the further step of:  
2 generating at least one field of the pseudo-header in accordance with additional  
3 constraints.
  
- 1 8. (Currently Amended) A system for transmitting data in a network, the data in-  
2 cluding at least one segment transmitted in at least one packet, the system comprising:  
3 a memory configured to store instructions; and  
4 a processor configured to execute instructions to:  
5 generate a packet including at least one field of at least one pseudo-header and to  
6 insert it as extra octets in a place after a protocol header in accordance with a first proto-  
7 col and before the protocol data in a data field, which implements constraints on the for-  
8 matting of at least one field of the pseudo-header in such a manner to substantially satisfy  
9 requirements for procedures in accordance with a second protocol being used by a receiv-  
10 ing device to which the packet is to be sent.
  
- 1 9. (Previously Presented) The system of claim 8, wherein at least one reply to the  
2 transmitted packet is received and processed.
  
- 1 10. (Previously Presented) The system of claim 9, wherein the processor performs at  
2 least one checking step on the pseudo-header contained within the packet data fields upon  
3 reception of the reply to the transmitted packet.

4 11. (Currently Amended) A computer-readable medium having stored thereon a plu-  
5 rality of sequences of instructions, said sequences of instructions including instructions  
6 which, when executed by at least one processor, cause said processor to perform the steps  
7 of:

8 generating packets having at least one field of a pseudo-header and to insert it as  
9 extra octets in a place after a protocol header in accordance with a first protocol and be-  
10 fore the protocol data in a data field, which implements constraints on the formatting of at  
11 least one field of the pseudo-header in such a manner to substantially satisfy requirements  
12 for procedures in accordance with a second protocol being used by a receiving device to  
13 which one or more packets are to be sent.

1 12. (Previously Presented) The computer-readable medium of claim 11, wherein at  
2 least one reply to the transmitted packet is received and processed.

1 13. (Previously Presented) The computer-readable medium of claim 12, wherein the  
2 reply received in response to a transmitted packet is verified by performing at least one  
3 computation using the pseudo-header field contained within the protocol data field.

1 14. (Previously Presented) The computer-readable medium of claim 11, wherein the  
2 transmitting includes:

3 transmitting packets in accordance with the Transmission Control Protocol (TCP).

1 15. (Previously Presented) The computer-readable medium of claim 11, wherein the  
2 transmitting includes:

3 transmitting packets in accordance with the User Datagram Protocol (UDP).

1 16. (Previously Presented) The computer-readable medium of claim 12, wherein the  
2 reply is received in accordance with the Transmission Control Protocol (TCP).

1 17. (Previously Presented) The computer-readable medium of claim 12, wherein the  
2 reply is received in accordance with the User Datagram Protocol (UDP).

1 18. (Previously Presented) A method of analyzing the header of one protocol in the  
2 context of the header of at least one other protocol, the method comprising:

3 identifying the prefix portion of the header of the one protocol that is common  
4 with the corresponding prefix portion of the at least one other protocol; and

5 identifying a next portion of the header of the one protocol that differs from the  
6 corresponding next portion of the header of the at least one other protocol; and

7 computing at least one constraint that is to be applied to the processes which can  
8 generate packets in accordance with the at least one other protocol without requiring ad-  
9 ditional memory storage resources.

1 19. (Previously Presented) The method of claim 18, wherein the computing of the at  
2 least one constraint is done so that the packet generated in accordance with the at least  
3 one other protocol with the further addition of the at least one constraint will satisfy the  
4 requirements of the one protocol.

1 20. (Previously Presented) The method of claim 19, wherein the computing of the at  
2 least one constraint is done so that the packet generated in accordance with the at least  
3 one other protocol with the further addition of the at least one constraint will substantially  
4 satisfy the requirements of the one protocol.

1 21. (Currently Amended) A method of transmitting data as data packets, the method  
2 comprising:

3 receiving packets formatted in accordance with one protocol; and

4 applying them to the processing procedures designed in accordance with a differ-  
5 ent protocol; and

6           generating replies to be transmitted in response to the received packets, whereby  
7    the received packets are digested by the device to which they are transmitted as being in  
8   accordance with the one protocol; and  
9           transmitting the replies into the network.

1   22.   (Previously Presented) The method of claim 21, wherein the one protocol is  
2   Transmission Control Protocol (TCP).

1   23.   (Previously Presented) The method of claim 22, wherein the one other protocol is  
2   User Datagram Protocol (UDP).

1   24.   (Previously Presented) The method of claim 21, wherein the one protocol is User  
2   Datagram Protocol (UDP).

1   25.   (Previously Presented) The method of claim 24, wherein the other one protocol is  
2   Transmission Control Protocol (TCP).

1   26.   (Previously Presented) A device for implementing the method according to claim  
2   20, comprising:

3           logic configured to receive packets in accordance with at least one protocol;  
4           logic configured to generate a reply and to transmit the reply into the network in  
5   accordance with at least one protocol; and  
6           logic configured to insert at least one pseudo-header field in the transmitted  
7   packet in accordance with at least one additional constraint.

1   27.   (Currently Amended) A method for transmitting data as defined in claim 1 in-  
2   cluding the further step of  
3           using said constraints in said pseudo-header to implement at least one procedure  
4   in accordance with a desired protocol without having to store a substantial portion of the  
5   packet containing that psuedopseudo-header in a memory storage device.

- 1 28. (Previously Presented) The method for transmitting data as defined in claim 1
- 2 including the further step of
- 3       formatting said pseudo-header within the data field of the packet in accordance
- 4 with one or more additional constraints without requiring additional logic circuitry to per-
- 5 form the steps of the procedures defined by the additional constraints.
  
- 1 29. (Previously Presented) The method as defined in claim 1 including the further
- 2 step of
- 3       formatting said pseudo-header in such a manner that the packet content includes a
- 4 constraint that substantially satisfies one or more requirements of a different protocol,
- 5 without requiring additional memory resources.
  
- 1 30. (Previously Presented) The system as defined in claim 8 further comprising
- 2           an application layer for implementing an application layer protocol, and
- 3        said application layer and protocol being modified or altered to allow the application
- 4       layer or protocol to ignore a specified number of octets of the data field, which are re-
- 5       served for use by at least one pseudo-header.
  
- 1 31. (Previously Presented) The method as defined in claim 1 wherein said formatting
- 2 step includes said additional constraints also satisfying at least one additional procedure
- 3 in accordance with the first protocol.